Certification Standards

(Guidelines for Development of a Minimum Reassessment Program)
Revised August 2016

Bureau of Local Assessment

Informational Guideline Release 16-401

DLS
DIVISION OF LOCAL SERVICES
MA DEPARTMENT OF REVENUE

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Informational Guideline Release

Bureau of Local Assessment
Informational Guideline Release (IGR) No. 16-401
July 2016

Supersedes March 2015 Certification Standards
and
Any Prior Written Inconsistent Statements

CERTIFICATION STANDARDS
GUIDELINES FOR DEVELOPMENT OF A MINIMUM REASSSESSMENT PROGRAM

(G.L. c. 40, § 56; c. 58, §§ 1, 1A and 3; c. 59, §§ 2A and 38)

This Informational Guideline Release (IGR) provides guidance to local assessors on the minimum standards of assessment performance their proposed property valuations must meet for the Commissioner of Revenue to certify they are assessing at full and fair cash valuation.

Questions should be directed to the Bureau of Local Assessment.

Topical Index Key:

Assessment Administration
Valuation

Distribution:

Assessors

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(G.L. c. 40, § 56; c. 58, §§ 1, 1A and 3; c. 59, §§ 2A and 38)

These guidelines provide guidance to local assessors on the requirements and policies that they must follow for the Commissioner of Revenue to certify they are assessing at full and fair cash valuation under Massachusetts General Laws. c. 40, § 56 and c. 59, §§ 2A and 38.

The guidelines prescribe minimum standards of assessment performance that proposed property valuations must meet and set for the policies that apply to the Commissioner's review of proposed valuations for certification purposes. G.L. c. 58, §§ 1, 1A and 3.

These standards and policies are effective beginning with certification of assessed valuations as of January 1, 2016 for fiscal year 2017. They supersede those found in the March 2015 Certification Standards any prior written inconsistent publications or statements.

BUREAU OF LOCAL ASSESSMENT JOANNE GRAZIANO, CHIEF

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INTRODUCTION

These materials have been prepared by the Bureau of Local Assessment (BLA) to assist assessors to plan and carry out the reassessment program necessary to achieve full and fair cash value in accordance with the requirements of G.L. c. 40, § 56 and c. 58, §§1, 1A and 3. These Certification Standards (*The Guidelines for Development of a Minimum Reassessment Program*) specifies technical, procedural, administrative practices and assessing expectations.

An assessment is the value placed upon all real and personal property for the purpose of local property taxation. An analysis of market conditions along with the assessment level and uniformity must be performed annually as of January 1 whether for the triennial certification or for an interim year adjustment.

The triennial certification review is conducted by BLA staff to ensure the proposed values were derived utilizing a methodology based on generally accepted mass appraisal practices, are supported with current market evidence and are uniformly and equitably applied to all property. The data quality, all cost and depreciation tables, and land schedules will be reviewed for all real property. In addition income producing property will be reviewed for income and expense analysis, development of the economic rent schedules, capitalization rates and correlation of the values derived from two appraisal approaches. Personal property accounts will be reviewed for appropriate listing and valuation of assets along with the cost and depreciation schedules.

The statistics must conform to the Commissioner's minimum standards for certification as addressed in these Guidelines and will be used for the purpose of measuring the level and uniformity of assessments before and after the revaluation. Conforming statistics are not solely determinative that the proposed valuations are appropriately derived or applied.

Statistical medians and CODs alone are not to be considered market evidence.

Assessors may be requested to provide additional documentation, to supplement the standardized reports, during the certification review as questions arise.

Questions pertaining to these Standards or program development may be addressed to the Bureau at bladata@dor.state.ma.us or call:

Boston	(617) 626-2300
Worcester	(508) 792-7300
Springfield	(413) 452-3800

Information is also available on the DOR web site at www.mass.gov/dls

PROPERTY ASSESSMENT CONTRACTS

Municipalities for various reasons may need to contract with an independent revaluation contractor to perform revaluations or other property assessment services.

All requests for consulting services must conform to G.L. c. 30B, the Uniform Procurement Act. For additional information, please refer to the "*Practical Guide to Drafting Effective Invitations for Bids and Requests for Proposals for Supplies and Services*" (April 2005) issued by the Massachusetts Office of the Inspector General.

http://www.mass.gov/ig/publications/guides-advisories-other-publications/online-guide-to-drafting-ifbs-rfps-for-supplies-services.html

A contract by a municipality for revaluation or other assessing services should contain the following topics: The agreement, scope of work to be completed, time and expected delivery of the completed materials, compensation, general requirements pertaining to performance bonds, time frame for submission of the proposals, rights reserved by the municipality etc.

All contractual construction should be reviewed and discussed with town/city council.

TRIENNIAL CERTIFICATION PROCESS

The Bureau of Local Assessment certification process consists of, but is not limited to, a data quality review, a statistical ratio studies review, and a valuation review to ensure that proper appraisal methodology was utilized while uniformly and equitably applied to all property.

A revaluation program should be based on the mass appraisal process utilizing the components of an acceptable mass appraisal system. The mass appraisal system is comprised of the following: data management, valuation, performance analysis, administration and appeals.

After determining the scope of the reassessment program, the assessors must prepare a work plan for its accomplishment and submit it to the BLA, as explained in detail under the Minimum Program Components section.

The valuation system should have the capability to maintain data, readily update the values, and produce all reports necessary to meet the minimum standards for certification.

Minimum Program Components

Workplan

BLA will require a workplan be submitted by the municipality on Gateway online prior to the start of the triennial revaluation. A carefully prepared and written plan is a tool by which the assessors can define the specific tasks required, manage their staffing and financial resources and monitor the progress of the program, thereby ensuring the timely and satisfactory implementation of the new valuations.

When developing a plan, the assessors must evaluate the capability, relevance, and cost effectiveness of the current assessment system, appropriate adequate funds to implement the program, and establish a realistic timetable allowing for the Bureau of Local Assessment's review and the public's notification of the proposed values.

The workplan should address the program components being utilized for each class of property, whether in-house and/or professional assistance is required to complete the project and the specific responsibilities of each participant.

The plan should also include a work schedule with projected date of completion and the timeframe for obtaining adequate funding to complete the task. It is recommended that funding be appropriated two years in advance of the certification year.

See Bulletin 2014-02B on "*Realistic Planning for Certification and Tax Rate Setting*" (February 2014).

http://www.mass.gov/dor/docs/dls/publ/bull/2014/2014-02b.pdf

Basic workplan information must be reported on the form "Revaluation Workplan" prior to the start of the revaluation program (see Commonly Used Forms, page CF2). The workplan should be completed or attached in the "Revaluation Workplan" section of the "Certification Tab" in Gateway. Additionally, the workplan may be submitted by the appropriate field advisor on behalf of the assessors.

If there are any prolonged certification delays or significant modifications to the plan, the assessors shall submit a revised plan for review.

In addition, the BLA may request a copy of an appropriate valuation contract if necessary.

Data Collection Manual

A comprehensive data collection manual is essential to ensure that property data is collected and recorded in a consistent manner. The data collection manual should contain a set criteria

used to identify building styles and story heights applied in the community. Any subjective data such as quality of construction (grade), condition, application of the depreciation and any applicable views should be clearly defined and illustrated in the data collection manual. This manual must be retained in the assessors' office and adhered to by all assessing and data collection personnel.

Data Collection

The collection and maintenance of current and accurate property inventory data is a critical element in the development of uniform and equitable market values.

The assessor should accurately measure to the nearest foot all improvements and prepare a complete outline sketch of the property noting all dimensions, story heights, additions, porches, and other attributes which contribute to value on the property record card (PRC) in accordance with the data collection manual.

Condominium data collection and sketches:

- Assessor's criteria for condo data collection should be discussed in the data collection manual for the community.
- All complexes should have a master card in which to record all amenities, common area structures and sketches.

Individual Condo Units

- For garden style (apartment building conversions) and 2 or 3 family conversions, the individual unit property record card should list the unit SF and interior data components (SF would typically be from Master Deed)

While BLA recommends that the exterior measurements of **townhouse and free standing condo units** be utilized, the following will be accepted as an alternative:

- The assessor will review the master deed and reconcile the square footage with the "as built" plans (not the developers unit lay out plans).
- Square footage must be segmented into living area such as first and second floor, basement, attic and garage areas.
- Unit property record cards must contain all interior unit data, percentage of common interest and square footage as reflected in the master deed and/or "as built" plans.
- If the square footages used for valuations is different than that recorded in the master deed, the master deed square footage should also be noted on the PRC.

The collection of property data can be the most costly part of the revaluation process. Unless such data is regularly maintained, a community will inevitably face the requirement of an expensive community-wide data recollection effort in order to provide uniform assessments and meet certification requirements.

There are a number of factors that must be considered in determining when a property inspection program meets certification requirements. These include, for example, the quality of the original data collection, the conversion to a new valuation system that may require different data components, the frequency of property renovation and remodeling in the community (which is often related to the frequency of property sales), and the presence of a systematic program to inspect all properties in addition to those that have sold or for which building permits have been issued.

The BLA requires that a periodic data inspection program provide for the inspection of each parcel at least once every **nine years.** (An inspection of the property should be a full measure and listing of the exterior and a concerted effort demonstrated for interior inspections. All condo units must be included in the nine-year cyclical inspection program. It is recommended that this be an ongoing program to ensure that current accurate data be used in the valuation process and to spread out the data collection cost.

The BLA may require, for example, an inspection program be completed prior to its normal schedule if it is determined that the current data quality is insufficient or if the assessors are unable to determine when properties were last inspected.

The assessors may choose to conduct a study at the onset of a revaluation of all real property to determine the quality of their data or should the Bureau of Local Assessment determine that a data quality study be conducted.

Refer to the Appendix, pages A1-A2, for a guide in conducting a data quality study, should one be necessary.

Digital Imaging Technology

Assessors may wish to consider employing digital imaging technology programs to **supplement <u>not replace</u>** the data collection activities in the field.

These programs allow assessors to perform computer assisted office review using orthophotography and oblique images, etc.

Tax Maps

Every community requires adequate tax maps, which may include a geographic information system (GIS) conforming to the MassGIS parcel mapping standard, which can be found at www.mass.gov/mgis/Parstndrd_Ver2_0.pdf with specific information under "Maintaining Standardized Assessor Parcel Mapping" , in order to ensure that property assessments meet the standard of full and fair cash value.

Without tax maps, assessors may not have a readily accessible, complete parcel inventory or detailed land area information, such as frontage and square foot area, for each parcel. As a result, they may be unable to precisely analyze market influences on the value of land, such as,

size, shape and frontage, or develop a land valuation system based on these accurate measures of market value. Moreover, without accurate land information, existing appraisal systems cannot produce uniform assessments.

Assessors in communities that do not have adequate tax maps must include the development and implementation of a tax-mapping program as the initial component of their reassessment program.

Assessors in all communities must provide for the maintenance and updating of their tax maps as a component of their reassessment program.

Parcel Classification

Assessors shall classify all property as of January 1 according to its use. Assessors must refer to the *Property Type Classification Codes* booklet prepared by the BLA.

http://www.mass.gov/dor/docs/dls/bla/classificationcodebook.pdf

Property Record Cards

Property record cards (PRCs) shall be completed for all parcels indicating the name and mailing address of the property owner. PRCs should contain all information regarding improvements and land required by the appraisal system to produce equitable assessments along with the visit/inspection history, sale information and assessment history. Additionally, the PRC should contain a sketch and photograph.

Prior Certification Directives

The Bureau of Local Assessment certification directives **must** be reviewed for compliance when developing the revaluation program. Please note that failure to address prior directives could result in delays to your certification.

APPROACHES TO VALUE

As applicable, assessors shall consider the market, cost and income approaches in the valuation of all vacant and improved parcels using the computer assisted valuation system (CAMA) in place in the community.

The assessors must develop a program to collect and analyze three categories of data; general, specific and comparative to be used in all approaches to value. General data consists of neighborhood characteristics, trends and factors which affect value. Specific data consists of site, external influences and improvement information. Comparative data consists of cost, sales, and income and expense information.

To understand the current market conditions, the assessor should collect all sales data that has occurred in the community. Current asking prices, used as a guide in the determination of value, should be investigated and reviewed.

The validity of any sales analysis is dependent on the use of the arms-length sales. An arms-length, (market value) sale implies the consummation of a sale as of a specific date, the passing of a title from seller to buyer whereby certain conditions are upheld: the seller and buyer are typically motivated, well informed and acting in their own best interest; the property has been exposed to the open market for a reasonable amount of time; payment is made in terms of dollars; and the price represents the normal consideration for the sold property unaffected by special financing or sales concessions.

All sold properties should be inspected which will enable the assessors to validate the sale price, circumstances of the sale, verify existing property data and monitor property changes.

To obtain sales data and circumstances relevant to the sales, the assessors should send sales verification questionnaires to buyers and sellers to determine the type of transaction, financing arrangements and any special circumstances of the sale. Local real estate brokers and the Multiple Listing services are also valuable sources for such information.

The assessors should obtain information necessary to determine the fair cash value of property by requesting that owners and/or lessees of such property make a written return in accordance with G.L. c. 59, § 38D (applicable to real property) and c. 59, § 38F (applicable to personal property). The returns can be used to request sale information, income and expense data, property descriptive information, cost, condition and age of personal property assets as well as annual reports filed with regulatory agencies or any other information required by the assessors to determine value.

Sales Comparison Approach (market approach)

The sales comparison approach is an interpretation of comparable sales data to arrive at an estimate of value for the subject property. Similarities and differences which affect market value including financing terms, market conditions, location, and physical characteristics of recently sold properties are analyzed and adjusted to estimate the market value of the subject property. The sales comparison approach is based on the principles of supply and demand (principle of change), contribution, and the principle of substitution. Adjustments to market conditions are based on the principle of change. Adjustments to individual items which affect value are based on the principle of contribution. The principle of substitution assumes that a prudent person will pay no more for a property than it would cost to purchase a comparable substitute property.

In developing the sales comparison approach the assessor should attempt to interpret and measure the actions of parties involved in the marketplace, including buyers, sellers and investors.

Cost Approach

Utilizing the cost approach, the value of a property can be estimated by totaling the land value and the depreciated value of any improvements. This approach is most reliable when used on newer structures and less reliable when applied to older properties. The cost approach may be the most reliable approach in dealing with specialty use properties.

The assessor shall value improvements in accordance with generally accepted mass appraisal practices, cost service manuals with applicable updates and or use of local building costs, where available. All data must be documented and presented for certification.

In using the cost approach, base costs shall be determined as appropriate for each improvement style or type. Current local modifiers and costs appearing in a generally accepted cost calculator can be adjusted where necessary and documented by an analysis of local construction costs and market sales data.

Accrued depreciation, including physical deterioration, functional and economic obsolescence must be accurately documented by market evidence prior to deduction from the replacement costs. Functional and economic obsolescence should be applied in accordance with generally accepted appraisal practices. These adjustments should be noted on the PRC, clearly defined and substantiation presented during certification.

In reference to commercial and industrial property, the CAMA system must utilize all cost components necessary to value the various uses within the community. This should include type and size of the structure(s), story height, paved areas, signage, lighting, etc.

Income Approach

The income approach is used primarily to value investment properties. Since this approach is intended to model the expectations and/or behaviors of a typical investor it is considered to be the most applicable valuation methodology for income producing properties.

For certification purposes, a second independent approach to value must be developed and applied to all properties bought and sold on investor' expectations. The two approaches to value should correlate within 15%.

In valuing income producing properties, the assessor must collect current community specific information from owners, tenants, realtors, financial institutions and any other sources for use in the valuation process. There are sample forms and cover letters located at the DOR website at www.mass.gov/dls in the Local Assessment section under General Information.

If sufficient data cannot be obtained locally then data should be obtained from alternate sources of information such as regional information from similar neighboring municipalities, the internet or national/regional services. This data must be sufficient to develop verifiable schedules for all income producing property.

Data to be analyzed shall include rental information, vacancy rates, and expense information.

The capitalization rate (cap rate) is the ratio between the net operating income and its capital cost (original price paid to buy the property) or current market value.

Proper cap rate development should represent market conditions such as financing terms, discount rates, recapture rates, yield requirements and local debt coverage ratios for the various uses within the community.

All data and analyses used in the determination of value should be documented and presented for certification.

STATISTICAL ANALYSES

Once the arms-length sales have been identified and verified, the assessors should undertake a statistical analysis to determine both the level and uniformity of existing assessments and to identify the source(s) of any existing inequities.

The total number of arms-length sales used in the analysis of all major use classes should be at least 2% of all parcels in that use class or 10 sales in the class, whichever number is greater. If insufficient sales exist to meet the applicable requirement in the base calendar year, twenty-four months of sales for that class must be analyzed and submitted to the BLA for review, time-adjusted as needed. A third year is not required. The major use classes referred to are listed on the next page. If a time-adjustment is performed an analysis must be presented for certification. The analysis of the various classes of property must use sales from the same time period when obtaining the required number of sales. See pages A4 – A8 in the Appendix for Time Trend Analysis information.

The effective date of the analysis is the January 1st prior to the fiscal year. For example, the assessment date for FY2017 is January 1, 2016, and the base year sales to be analyzed are those occurring in calendar year 2015 (January 1, 2015 through December 31, 2015).

Since the object of the valuation program is to estimate fair market value as of January 1st of a particular year, the ratio study used to evaluate that program should reflect market conditions as of that same January first. In the event that two years of sales are needed, the addition of the sales from the previous calendar year can also be used or assessors may supplement their calendar year analysis with sales that occurred, 6 months previous and 6 months after the calendar year. It should be noted that the calendar year sales along with any supplemental sales must meet all statistical requirements and that the same time period be used for all classes requiring additional sales.

The community-wide median assessment/sales ratio (ASR) and coefficient of dispersion (COD) about the median must be calculated first for the residential class of properties having the

largest number of parcels. This is the predominant class. Then the ASR and COD for all other property classes should be calculated.

For certification purposes, the following chart describes the range in which the median ASR must fall and the maximum COD for all classes of property.

TYPE	CLASS CODE	MEDIAN ASR	MAX COD
Single Family	101	90-110%	10.0%
Condominiums	102	90-110%	10.0%
Two Family	104	90-110%	12.0%
Three Family	105	90-110%	12.0%
Multiple Dwellings	109	90-110%	15.0%
Apartments	111-112	90-110%	15.0%
Vacant Land	130-132	90-110%	20.0%
Commercial	300's	90-110%	20.0%
Industrial	400's	90-110%	20.0%
Mixed Use	013-031	90-110%	20.0%

The difference in the median ASR of the predominant class and the median ASR of any other class should be 5% or less, but may **not** go below 90% or above 110%.

If a sufficient number of sales exist for any property class, the assessors should stratify the sales into subgroups, for example, date quartile (irregular quartile statistics may indicate a time adjustment is necessary), neighborhood (e.g. location), sales price quartile, style, grade, age, etc. The median ASR and COD must be computed for each group. The median ASR of the subgroups must be within 5% of the property class median. The COD should be no higher than that indicated for the appropriate class in the preceding chart. These group statistics, if outside the parameters when compared with the overall median ASR and COD for each class of property, may indicate assessment inequities.

For each property use class having 40 or more sales in the analysis period, the median ASR for each price quartile should be computed. Arraying the selling prices from low to high, and dividing them into four groups having approximately equal numbers of sold properties establishes the price quartiles. The median for each price quartile should fall within a range of 5% of the median for the entire class.

The date quarters are established by arraying sale dates from the beginning to the end of the year and dividing them into four three-month groups. If two years of sales were used, divide them into four six-month groups.

For each class of property having at least 20 but less than 40 sales, array the sales as directed for price analysis. However, analyze them in two rather than four groups.

For each condominium complex having 5 or more sales, the median ASR should be within 5% of that of the condominium class as a whole and the COD no higher than 10%.

When market value indicators, other than vacant land sales, are used for the development of land values (i.e., residual or abstraction analyses), the median residual ratio may **not** go below 90% or above 110% and must be within 5% of the overall median for that class. The COD must be no higher than 20%. The analysis should also be done by neighborhood, lot size and zoning if applicable. The median of these residual subgroups should be within 5% of the median of the group as a whole.

During the analysis, the median of the vacant land sales and that of the residuals should be noted and reconciled. Any disparity between the two may indicate inequity in the land value and merits further review by the assessors.

Individual vacant land ASRs should correlate with the neighborhood indicated land value derived from the residual analysis.

The LA3 Sales Report must be signed and submitted through the Division of Local Services interactive internet program, Gateway. Reference should also be made to the BLA publication "*Property Type Classification Codes*, Non-arm's Length Codes and Sales Report Spreadsheet Specifications" for information on sale coding and the spreadsheet report format.

http://www.mass.gov/dor/docs/dls/bla/classificationcodebook.pdf

FIELD REVIEW

There are two types of field review to be undertaken by the assessors as noted below. The first to be discussed is a review of the valuations and the second is a field review of data.

Valuation Field Review

Regardless of the methodology applied to value property, the assessors must perform a valuation field review of the proposed values once finalized for certification. This field review should be a representative sample of property to ensure valuation consistency and uniformity. BLA highly recommends that this sample be a minimum of 50% of all property, however, under no circumstances should it be less than 25%.

Data Quality Field Review

The BLA requires that a **full data quality field review** of all real property data be performed immediately upon implementation of a new valuation system and/or data conversion program. This field review is required regardless of whether the current property data is being retained or a new data collection program is being undertaken.

The full field review is required to ensure data components necessary for valuation in the new appraisal system have converted properly.

Upon completion of an **upgrade to the existing appraisal system**, the assessors are required to perform a field review of a sufficient number, not less than 25% of all property, to ensure data was not lost or corrupted during the upgrading process.

Assessors must keep comprehensive records documenting the review along with its results. If systemic errors are identified, it is expected that appropriate corrective measures will be undertaken to ensure accurate data. Therefore, the field review of data, whether full or partial, must be completed early in the valuation process to allow for these corrections to be made.

BLA may require a full field review of data if it is determined through a data quality study there are sufficient systemic errors that necessitate correction.

LAND VALUATION

Neighborhoods for appraisal purposes must be delineated and analyzed by the prime lot indicated land value. A map depicting neighborhood delineations should be submitted at the start of the certification review. The map must clearly define all residential, commercial and industrial neighborhoods. The map shall be of adequate size employing distinct colors to enable the reader to identify the appraisal neighborhoods.

It is also acceptable to present two separate maps one reflecting the residential neighborhoods and the other the commercial and industrial neighborhoods.

In addition to the vacant land sales analysis, an analysis using the land residual method should be conducted. When estimating land values by the land residual method, the following contributory values must be considered: primary improvement (dwelling), accessory improvements (garage, pools, etc.), and site improvements (water and sewer).

All land factors and/or value adjustments must be supported by market evidence within the neighborhood in which they are being applied. One sale is not considered support for multiple adjustments without a matched pair analysis. Please see the Appendix page A12, for matched pair examples.

When analyzing sales to determine rear/excess acre values, the indicated prime lot value as demonstrated by the residual analysis and not the schedule value should be used. See A12 for indicated land value example. The excess acreage of any parcel must be of sufficient size to render a meaningful analysis. If the land schedule calls for a rear acre value adjustment by neighborhood, there must be market evidence to support this adjustment.

Additional land segmentation such as secondary lots, front foot and unbuildable land must use the above procedures and be supported by market data.

Land schedule must be supplied in Excel format.

Land schedules for income producing properties (such as apartments, mixed use, commercial and industrial) should be supported with market evidence and model the expectations of typical investors.

The apartment land schedule, if a price per unit is utilized, must be supported with income residuals and should reflect neighborhood differences and/or the quality and desirability of the complex.

Mixed use land schedules should consider the primary use of the property in determining the appropriate land schedule.

Assessors must determine commercial and industrial land segments (e.g., prime site, secondary site, expansion, buffer and/or excess land) through set criteria.

Commercial and industrial land schedules should properly reflect the primary site as determined by land to building ratios considering local zoning requirements and property use which are defined and uniformly applied.

Please refer to the Commonly Used Forms section on **page CF1 for the land schedule format** and the Appendix, pages A9-A12 for valuation examples.

MULTIPLE REGRESSION ANALYSIS

To determine whether a certain Multiple Regression Analysis (MRA) model is the best predictor of a given group of sales, appropriate statistics and program outputs must be achieved in the modeling process. The following statistical standards should be represented in the overall model.

The Coefficient of Determination (R^2) equals the percentage of the variation in sales prices explained by the MRA model. An R^2 percentage equal to or above 90% is desirable.

Standard Error of the Estimate (SEE) provides an estimate of the variation (the amount of deviation between actual and estimated sale prices) that is likely to be observed when making estimates of value using a specific model. The SEE must be a positive number. A low number is a better indicator of predictability.

Coefficient of Variation (COV) is the SEE expressed as a percentage. This statistic describes the standard of deviation of the regression as a percentage of the mean sales price. The COV is expected to be equal to or below 12%.

Average Percentage Error is the average absolute difference between the actual and the predicted sales price. A low number is a better indicator of predictability.

PERSONAL PROPERTY

Personal Property market value can be defined as the price that dealers in the assets would accept and purchasers are willing to pay when the assets are bought and sold in the normal course of business.

Personal property should be valued annually in accordance with an acceptable appraisal methodology.

An annual review of personal property accounts should be undertaken to ensure accurate valuation. This review should include identifying the owners of personal property located in the community as of January 1 to determine taxable status, information on the taxable assets and the valuation of those assets.

Annual discovery of accounts should take place through a review of building permits, business permits issued by the town clerk, a review of the business directory and/or other newspaper and internet sources and by field review.

The assessors' record for each personal property account should include the owner's legal name, business name, tax billing address, business location in the community, asset listing and value. The asset listing should identify specific items and include for each item the age, count, replacement cost new, the depreciation percent and the replacement cost new less depreciation (RCNLD) value. After itemization, the taxable value of each category of personal property should then be totaled (e.g., fixtures, furniture, machinery, inventory, etc.).

Verifying or completing a listing of the individual items of taxable personal property for each account should be based on on-site inspections or review of Forms of List. Each account must be inspected at least once every 9 years and review of Forms of List should be performed annually. In the absence of either a current on-site inspection or Form of List the account assets should be estimated based on similar accounts or business models to account for any possible acquisitions or dispositions.

Valuation of the taxable property must be performed in accordance with an appropriate and uniformly applied appraisal methodology. All cost and depreciation tables need to reflect the current valuation date and be applied to each account in a consistent manner. Taxable items should be valued and depreciated through the tables and schedules established.

Non-taxable accounts must be set up in the appraisal system and contain the owner's legal name, business name, tax billing address, business location in the community, asset listing, value and the reason the account is not taxable.

Accounts that are not taxable due to falling below a small personal property exemption adopted by the community must be reviewed annually for compliance.

Second Home Personal Property

Second home personal property may be valued by on-site inspections or Forms of List, as is business personal property, unless the allocation method is used.

The use of the allocation method requires an analysis of residential second home personal property which must be conducted **every 6 years**. This review must consist of inspecting or reviewing the Forms of List of a minimum of 2% of all second home accounts but under no circumstances should it be less than 10 accounts.

The allocation % must be derived from the study and applied consistently to all second home RCNLD.

UTILITY ACCOUNT VALUATION

The Electric Utility Restructuring Act, Chapter 164 of the Acts of 1997, separated the generation of electricity from its transmission and distribution. Independent, non-utility producers in a deregulated environment now generating electricity and the plants' valuation must reflect market value. For information of the valuation of generating plants see IGR 98-403. http://www.mass.gov/dor/docs/dls/publ/igr/1998/98-403.pdf

Transmission and distribution of electricity are still performed by regulated local electric utilities. Class 504 (locally assessed utility) values not based on the reported net book value require the submission of appraisal documentation for support. Please see the Appendix pages A12-A13, Utility Property, for information on determining value. The Locally Assessed Utility Cover Letter can be found on Page CF3 of the Commonly Used Forms section.

STATE OWNED LAND VALUATION

The Commissioner of Revenue determines the fair cash value of certain tax-exempt state owned land (SOL) for reimbursement. Criteria for reimbursement generally depends upon three factors: taxable status at the time of state acquisition, land use, and the particular state agency owning or "holding" the land G.L. c. 58, § 13-17 (use next button for §§ 14-17) and c. 59, § 5G). Land valuation does not include any improvements to the properties (such as buildings) or personal property. All state owned lands are being used for public purposes and as such are exempt from local taxation.

The Department of Capital Asset Management (DCAM) notifies the BLA of acquisitions, deletions and agency transfers.

Upon receipt of an acquisition assessors will be notified and must supply the following documentation:

property record card for last year taxed,
recorded deed or order of taking,
copy of commitment book entry for year prior to taking,
assessor's map marked with the location of the site,
accepted street list from town clerk, and
dimensional and use regulation tables from zoning by-laws.

Land no longer being used for reimbursable SOL purposes will be deleted and reimbursement will cease.

Should documentation be found, e.g. by the Bureau of Local Assessment or another state agency, showing that land not previously reimbursed is eligible for reimbursement, it will be added to the Cherry Sheet payment in Lieu of Taxes Program (PILOT). Conversely, if it becomes evident that land was erroneously reimbursed in the past, it will be removed from the PILOT Program.

The procedure for valuation of state owned land follows generally accepted practices for the appraisal of vacant land to arrive at full and fair cash value estimates requires standardized procedures in order to achieve consistency in valuation application throughout the Commonwealth.
Land will be valued as vacant based on the requirements of local zoning laws of the municipality or predominant land use in the absence of zoning laws. If the land is zoned for governmental or institutional use (e.g. government buildings, schools etc.), the surrounding land use should be considered characteristic and applicable to the state owned land. Building restrictions such as those on protected watersheds, reservoirs, floodplains etc., should also be taken into consideration. Local zoning changes that are made only to state owned land to enhance reimbursement will not be considered valid. Assessors must notify BLA of any zoning changes affecting reimbursable state owned land.

State owned land is valued by site. For the purposes of state owned land valuation, a site is land held or controlled by a particular agency, for a particular purpose, such as the Department of Fisheries and Wildlife or a state park. Sites generally have a name, are often made up of more than one parcel and may overlap municipal bounds. A holding agency may have more than one site in a community. If a site is in more than one community it must be valued separately in each. Site acreage must be analyzed and may consist of one or all of the following categories:

Prime Lots – land on municipally-accepted public ways, pursuant to Chapter 82 or statutorily-accepted state highways (roadways) with direct and complete access, is eligible for the prime lot value attribution. Prime lots must meet local zoning requirements in effect as of the appraisal date (January 1 of the valuation year). Zoning requirements include permitted uses, size, frontage, width, and setbacks. Prime lots must be readily-developable, such that a local building inspector may issue a building permit (e.g., not requiring any special site review, permitting, or other discretionary regulatory approval).The roadway may be unpaved but must be maintained and passable year round. Prime lot attribution will not be considered for land lying within the 100-foot buffer zone of any wetland area. Irregularly shaped lots with minimal frontage, sometimes called "pork chop lots," will not be considered for prime lot attribution. Notwithstanding G. L. c. 40A, § 3, any zoning within a community that prohibits building and any land that requires authorization under G.L. c. 91 for construction on both coastal and inland waterways will not be eligible for prime lot attribution.

- If the accepted roadway is unpaved but it is maintained (ploughed, sanded, graded, etc.), whether there are houses and utilities on it or not, the lots fronting on the roadway should be considered as prime lots if they meet all other criteria for this category.
- If the accepted roadway is impassable or only passable in certain seasons of the year or portions of the day, the lots fronting on the roadway will not be considered as prime lots.
- Where the state has constructed roads in a site or has assumed ownership and maintenance of them for site use, such roads will not be considered for prime lot frontage determination. (*Board of Assessors of Sandwich v Commissioner of Revenue,* 393 Mass.580 (Mass.1984))
- Prime lots will not be designated if guard rails are situated along the road frontage

Rear/Excess Land – land that does not qualify for front lot attribution, has limited or no access, but is potentially buildable. This category includes land on accepted municipal public ways and accepted state highways (roadways) that meet the minimum local zoning requirements, but are not readily developable due to minor topography issues or other negative influences.

Undevelopable/Wet Land – land that is unbuildable due to physical conditions such as wetness, extreme slope, governmental restrictions or land that is a water body (lake, pond, marsh etc.). Due to an ATB decision, the water body portions of DCR Water Supply Protection property (G.L. c. 59, § 5G) are not eligible for reimbursement. (*Town of Boylston v*

Commissioner of Revenue, Metropolitan District Commission and Massachusetts Water Resources Authority, ATB Docket No. F183626, F22902 (2000).

Rear/excess land and wet land determinations should be based upon U.S. Geodetic Maps, local conservation commission maps, U.S. and state agency maps, holding agency reports and visual observations, etc.

The BLA reviews and certifies all communities' real and personal property values on a triennial basis to ensure that they are at full and fair market value. The resulting certified land schedule is used as a starting point for SOL valuation. Since the process occurs over a three-year period, equalizing or standardizing the values is necessary so that all SOL values are at the same level at one point in time.

Assessors' property record cards must show the proper use class codes for reimbursable SOL, reflect the full and fair cash value as well as the reconciled segmentation using the Bureau's guidelines. While municipal land values may change annually due to the real estate market, SOL values for reimbursement remain fixed until the next SOL valuation every four years. SOL valuation, for reimbursement purposes, will only change between SOL valuations when there are additions or deletions to the SOL inventory (except watershed). Assessors performing interim year adjustments should change the value of the SOL on the property record cards. The BLA SOL value may also be shown on the property record cards if the assessors so choose.

The Bureau has developed and will apply adjustments for size and absorption rate using standard tables. Specifically large acreage discounts will be applied to sites larger than 100 acres and excess primary lot adjustments will be applied to sites with road frontage allowing for 26 or more prime lots. For sites over 100 acres in a community that utilizes a size adjustment curve, the value at 100 acres, applying the curve, will be used by the bureau before applying the standard land discount table.

FARMLAND VALUATION

The Farmland Valuation Advisory Commission (FVAC) adopts the range of recommended agricultural, horticultural and forest land use values for the various categories of land classified under G.L. c. 61 and c. 61A. These value ranges are to be used in conjunction with the assessors' appraisal knowledge, judgment and experience as to agricultural, horticultural and forest land values.

When a Board of Assessors determines local valuations for land classified as agricultural, horticultural or forest land under these chapters, they must consider only those indicia of value that such land has for agricultural, horticultural or forest uses. Any income, sales or other appraisal information considered by the assessors is limited to data specific to the crop or product being grown or produced.

If a Board of Assessors adopts values outside the range of values recommended by the FVAC, the determination must be supported by a comprehensive study of local factors influencing the agricultural, horticultural or forest use value, and include a detailed description of the selected valuation models and resulting use value estimates. The FVAC valuations must be considered in all local analyses.

Any sales of farmland, income data or other appraisal information being considered by the assessors should be limited to data specific to the crop or product being grown or produced. Any indicia of use value derived from sales must come from comparable sales of agricultural, horticultural or forest land to buyers who purchase the property to continue its current agricultural, horticultural or forest use. Assessors should ensure that sales used to support their valuations are comparable with respect to tillable land, pasture, meadow, woodland, mountainside and marsh, etc. In addition, they should identify and consider all other circumstances about the transactions that may have influenced the prices paid for the land, e.g., sales during crop growing season, irrigation and personal or business motivations of the parties.

When analyzing these sales, they should be grouped into crop or product categories similar to those recognized by the FVAC. If the number of sales is inadequate, regional data from comparable communities should be considered.

Rental income is a reliable means for deriving an estimate of market value using the income capitalization approach. When income data is available, local farm rental rates per acre for various land classifications should be used. Care should be taken to ensure that only the productivity of the land is evaluated and not the other income sources such as retail sales. The rental income method requires fewer assumptions, less dependence on management performance, and rental patterns are relatively consistent within the farming community.

PUBLIC DISCLOSURE

It is important to build and maintain public trust and confidence in the assessment administration system. This can be accomplished by keeping taxpayers informed of the legal requirements regarding assessments and of the assessors' responsibilities and actions in complying with those requirements. An informed taxpayer can alert the assessor to any inadvertent data inaccuracies preventing unnecessary abatement applications and undue burden on the overlay account.

All communities are required to undertake a public disclosure program of all real and personal property valuations prior to receiving final certification. The program must be undertaken for a minimum of five (5) business days after the Bureau's issuance of preliminary certification.

For certification communities, a comprehensive, formal notice must appear the general circulation in the community. The public disclosure notice can be listed in the local newspaper

be posted on the municipality's website or both. Public disclosure of values must occur for a minimum of five (5) business days following the date of publication. The notice is not required to be a paid legal notice. A copy of the notice (or notices) should be uploaded into Gateway under the **"Certification Tab"** in the LA10, Assessment Adjustment List section.

The public disclosure notice **must** address the basis of the valuation changes, the program's overall effect on assessments, and the manner and time period in which taxpayers may review the proposed new assessments prior to tax billing.

It is expected that communities with a significant number of non-resident taxpayers will send or email impact notices. It should be noted that communities sending or emailing impact notices are still required to submit the public information release for publication in the newspaper or on the municipalities website.

The assessors must provide adequate opportunity, either during or after regular office hours, for taxpayers to make telephone or office inquiries regarding the proposed new values. Any changes to assessed values as a result of public disclosure should be made prior to submission of the LA10 and not through the abatement process. The LA10 should be completed and submitted on Gateway and even if there are no changes, the assessor must sign and submit.

If the assessors conducted a full revaluation program, which includes a full recollection of all property data and the development of a new valuation system, they are required to send impact notices to all taxpayers and must hold informal hearings. The impact notice must contain all pertinent legal information along with the previous and proposed values.

INTERIM YEAR ADJUSTMENTS

Performance analyses should be calculated to determine assessment levels and uniformity within the assessing jurisdiction. If there has been a change in market conditions which warrant property valuation adjustments, property values must be adjusted in a fair and equitable manner to reflect full and fair cash value as of January 1 in accordance with G.L. c. 59, § 2A.

Assessors must annually adjust valuations to reflect changes in the tax base due to new construction, alterations, or demolitions. In years between triennial certification, the assessors may undertake and complete a valuation adjustment program without the prior review or approval of the Bureau of Local Assessment. This is called an interim year adjustment. A plan, which includes analyses and application of appropriate appraisal methods, must be used to develop any valuation adjustments. After completion of the program, the community's assessments should be equitable and consistent within and between all property classes, as evidenced by conformity with accepted mass appraisal measures of assessment level and uniformity.

Documentation to support valuation changes must be prepared and retained by the assessors for a period of five (5) years or in accordance with the records retention schedule as determine by the Secretary of State (whichever is longer). This documentation should include a complete market analysis, sales ratio studies, income, expense and capitalization rate analyses and any data which supports the valuation changes being made.

All assessors must annually submit their sales report (LA3) of all real property to the Bureau of Local Assessment for analysis whether or not an adjustment was necessary. The sales report should be compiled according to the LA3 submission guidelines and signed and submitted via Gateway, the Division of Local Services online program. The statistical results of the sales are automatically calculated on the form "Interim Year Adjustment Report" (LA15). The LA15 should be reviewed and signed and submitted.

Valuations must conform to the assessment level and uniformity outlined in the Statistical Analyses section of these guidelines. It must be received with the Form LA4 "Assessment/Classification Report."

The completed form will be sufficient, although more detailed information may be requested. Examples of forms LA4 and LA15 online in Gateway are located on Pages CF4 & CF5 of the Commonly Used Forms section.

APPENDIX

Formal Data Quality Study Guide

Completion and documentation of an initial data quality study is essential to establish that the quality of the existing data currently on file is acceptable.

Sampling Method and Sample Size

Selection of a random, representative sample of 2% to 5% of all properties is necessary. The sample should consist of all classes of property from within each of the neighborhoods of various styles and ages. The sampling process should be sufficient to ensure that existing property data is accurate for each significant type of property. Heterogeneous areas of the community may require a larger number in the sample selected to ensure accuracy of the existing data.

After an inspection (including an interior inspection) of each property subject to review has been completed, the assessors should correct any errors in the data. The values should then be rerun using the schedules from the mass appraisal system currently in place.

The original value is then compared with the value that would have been generated had the data on the property been accurate (old versus new). If the average level of discrepancy is in excess of 10% the assessor must evaluate whether there is sufficient data integrity to produce certifiable values.

There are two principle methods for inspecting the properties in the study and recording the results. The first is to use a new, blank property record card in the field and conduct the data verification inspection similar to a full measure and list inspection of the property for the first time. The second method is to use the existing property record card in the field and mark where the differences are identified.

Assessors must keep copies of the data inspection records documenting the changes in a separate file for review if requested by the BLA.

Properties should be coded as follows to track the severity of the data issue.

1) No discrepancies found
2) Discrepancies that would have been identified by a field review
3) Discrepancies that would only have been found by an exterior inspection
4) Discrepancies that would only have been found by an interior inspection

The mean and median of both value (dollar) and percentage differences should be computed for the entire sample, as well as for each of the four categories listed above.

The assessors should also stratify the sample by characteristics such as neighborhood, style, age, date, price quartiles, etc.

Corrective Action (as necessary)

A median in excess of 10% in any category, class, or type of property may indicate a need for prompt appropriate corrective action (full field review or complete measure and list as deemed necessary).

A median below 10% in any category may be corrected through the cyclical reinspection program.

Results of any data quality study performed must be reviewed with the BLA certification advisor before certification planning proceeds.

Time Trend Analysis

Resale Analysis

$$\frac{\text{Sale Price 2 - Sale Price 1}}{\text{Sale Price 1}} = \text{Time Adjustment Factor for Entire Period}$$

$$\frac{\text{Time Adjustment Factor}}{\text{Time Period}} = \text{Time Adjustment Factor per Time Unit}$$

Example: A three bedroom Ranch sells twice during the year

Sale Date 1 : 1/16/15 Sale Price 1 : $ 250,000

Sale Date 2 : 9/16/15 Sale Price 2 : $ 300,000

$$\frac{300{,}000 - 250{,}000}{250{,}000} = \frac{50{,}000}{250{,}000} = .20 \text{ or } 20\%$$

Time Period between Sales = 8 Months
Time Adjustment Factor = .20 / 8 = .025 or 2.5 % Per Month
2.5 % x 12 Months = Time Adjustment Factor of 30 % Per Year

Paired Sales Analysis

This technique is rooted in the Sales Comparison Approach to Value. Similar properties sold at different times are adjusted to account for physical differences, leaving any remaining difference attributed to time.

Example: The similar properties are two homes in the same neighborhood built by the same developer.

Property 1 :	Ranch	3 Bedrooms	1 Bath	$ 285,000	Sold 2/15
Property 2 :	Ranch	3 Bedrooms	2 Baths	$ 330,000	Sold 12/15

Assume that appraisal models indicate that the 2nd bath is valued at $15,000. The older sale is then adjusted to the more recent sale.

$ 285,000 Property 1 Sale Price (includes only 1 Bath)
\+ $ 15,000 Value difference of 2nd Bath
$ 300,000 Adjusted Sale Price of Property 1

Apply Formula:

$$\frac{\text{Property 2 Sale Price - Property 1 Adjusted Sale Price}}{\text{Property 1 Adjusted Sale Price}}$$

$$\frac{330{,}000 - 300{,}000}{300{,}000} = \frac{30{,}000}{300{,}000} = .10 \text{ for } 10 \text{ months}$$

$$\frac{.10}{10} = .01 \text{ or } 1\% \text{ per month}$$

Multiple Regression Analysis

If Time of Sale is one of the Independent Variables, its effects on Sales Prices can be estimated to determine a Time Adjustment Factor.

Example: If the Regression Analysis determines a Value, or Coefficient, for month of sale of $5,250, and the Average Sale Price is $350,000, then the indicated rate of change is:

$$\frac{\text{Time Value}}{\text{Average Sale Price}} = \text{Indicated Rate of Change Per Month}$$

$$\frac{\$5{,}250}{\$350{,}000} = .015 \text{ or } 1.5\ \% \text{ Per Month}$$

1.5 % x 12 = 18 % Per Year

Sales Ratio Trend Analysis

Normally, Sales Ratios are computed by this formula: **Ratio = Assessment / Sale**

R = A / S

But comparing Ratios is not the same as comparing Sale Prices!

For Example:

Sale 1: A / S = 250,000 / 200,000 = 1.2500

Sale 2: A / S = 250,000 / 300,000 = 0.8333

** Note that the Assessment remains constant which is a critical assumption in using this method.*

$$\frac{\text{Sale 2 - Sale 1}}{\text{Sale 1}} = \text{Time Adjustment Factor for Entire Period}$$

$$\frac{300{,}000 - 200{,}000}{200{,}000} = \frac{100{,}000}{200{,}000} = .50 \text{ or } 50\%$$

But, using the Ratios in the same manner produces different results.

$$\frac{0.8333 - 1.2500}{1.2500} = \frac{-.4167}{1.2500} = -.3333 \text{ or } -33\%$$

Sale/Assessment Ratios (S/A)

Reciprocal Ratios, called Sale/Assessment Ratios, must be computed and used in the formula in order to get the correct results. Computing the S / A Ratio for the example:

Sale 1: S / A = 200,000 / 250,000 = 0.8000

Sale 2: S / A = 300,000 / 250,000 = 1.2000

When these Sale / Assessment Ratios are used, they produce the same Time Adjustment Factor found by comparing Sale Prices.

$$\frac{1.200 - .8000}{.8000} = \frac{.4000}{.8000} = .50 \text{ or } 50\%$$

Since Ratios are Fractions,

Ratio 2 - Ratio 1 =	$\frac{\text{Assessment}}{\text{Sale 2}}$ -	$\frac{\text{Assessment}}{\text{Sale 1}}$	Cannot be subtracted since denominators are different
But,	$\frac{\text{Sale 2}}{\text{Assessment}}$ -	$\frac{\text{Sale 1}}{\text{Assessment}}$	Can be subtracted since the denominators are exactly the same.

Time Adjusting Sales to the Assessment Date

To apply the Time Adjustment Factor to the Sales Database, the following formula is used:

$$TAS = S(1 + rt)$$

Where,

"TAS" is the Time Adjustment Sale Price

"S" is the Unadjusted or Original Sale Price

"r" is the monthly (or quarterly) rate of change

"t" is the number or months (or quarters) from the sale date to the assessment date

Example:

A $150,000 sale occurring 6 months before the assessment date would be adjusted as follows, using the 2.5 % per month time adjustment factor from above:

$$TAS = \$\,150{,}000\,[\,1 + (.025)(6)]$$

$$= \$\,150{,}000\,(\,1 + .15)$$

$$= \$\,150{,}000\,(\,1.15\,)$$

$$= \$\,172{,}500$$

Time Adjusting Sales Using Sales Ratio Analysis

When using this method, the Assessment Date Median Ratio is used as the point of reference - whether the sale occurs before or after this date.

$$\frac{\text{Mdn S/A Ratio Assmnt Date} - \text{Mdn S/A Ratio Qtr (or Monthly)}}{\text{Quarterly (or Monthly) Median S/A Ratio}} = \text{Time Adj Factor for Entire Period}$$

Consider the following Table of Median Sales/Assessment Ratios:

Qtr	Year	Sale Price	Jan 1, 2016 Assessment		S/A Ratio	Trend Factor Per Quarter
1	2015		180,000	200,000	0.900	0.08325
2	2015		200,000	200,000	1.000	0.06666
3	2015		220,000	200,000	1.100	0.04545
4	2015		240,000	200,000	1.200	0.00000
1	2016		240,000	200,000	1.200	0.00000
2	2016		250,000	200,000	1.250	-0.02000

The Median S/A Ratio for the Assessment Date of 1/1/16 is the average of the 4th Quarter of 2015 and the 1st Quarter of 2016 or 1.20.

Example: Time Adjustment Factor for the 1st Quarter of 2015:

$$\frac{1.20 - 0.90}{0.90} = \frac{0.30}{0.90} = .333 / 4 = .08325 \text{ Per Quarter}$$

Time Adjustment Factor for the 2nd Quarter of 2016:

$$\frac{1.20 - 1.25}{1.25} = -.04 / 2 = -.02 \text{ per Quarter}$$

Multiple Time Adjustment Factors

Sometimes, a series of Time Adjustment Factors are needed to accurately reflect Sale/Assessment Ratio Analysis results. These market trends can be seen on a graph plotting time against S/A Ratios.

Assume a S/A Ratio Analysis reveals a 2% per month inflation for the first 6 months and a 1% per month inflation for the next 6 months. A formula reflecting this trend would be:

$$TAS = S [1 + (.02)(t1) + (.01)(t2)]$$

Where,

t1 = the number of months in the first time period
t2 = the number of months in the second time period

Example:

A sale of $400,000 occurs 9 months before the assessment date. It would be adjusted as follows:

$$TAS = \$400,000 [1 + (.02)(3) + (.01)(6)]$$

$$= \$400,000 [1 + .06 + .06]$$

$$= \$400,000 (1.12)$$

$$= \$448,000$$

Land Valuation

LAND ANALYSIS—ABSTRACTION METHOD
(LAND RESIDUAL ANALYSIS)

Sale Price (SP) minus RCNLD of Buildings equals Indicated Land Value (ILV)

SP – RCNLD = ILV

Indicated land value, not the land schedule value, should be analyzed to determine all land segment values.

Land segments consist of:

Prime Lot = size per zoning or predominant lot size
Excess/Rear = size in excess of the zoning or predominant lot size
Secondary Lot, Front Feet or Front Acre = Criteria must be established by the Assessor (zoning, predominant lot size or other)

Applicable zoning for all examples: 1 acre with 200 feet of road frontage

Example 1: Prime Lot Value Determination

Sale Price: $430,000
RCNLD: $230,000
Size/Shape: 1 acre with 200 feet of road frontage

SP – RCNLD = ILV Prime
SP ($430,000) – RCNLD ($230,000) = ILV ($200,000)

Example 2: Excess/Rear Land Value Determination

Sale Price: $460,000
RCNLD: $240,000
Size/Shape: 3 acres with 200 feet of road frontage

SP – RCNLD = ILV – ILV Prime = ILV Excess
SP ($460,000) – RCNLD ($240,000) = $220,000 – ILV Prime ($200,000) = ILV Excess ($20,000)

ILV Excess / Number of Acres = Excess Land Value per Acre
ILV Excess ($20,000) / 2 acres = Excess Land Value per Acre ($10,000)

Example 3: Secondary Lot Determination (Front Feet and Front Acre calculation not shown)

Sale Price: $570,000
RCNLD: $250,000
Size/Shape: 4 acres with 400 feet of road frontage
Criteria: Each segment of 1 acre with 200 feet of road frontage above zoning requirements

SP – RCNLD = ILV – ILV Prime – ILV Excess = Secondary Lot Value
SP ($570,000) – RCNLD ($250,000) = ILV ($320,000) – ILV Prime ($200,000) –
ILV Excess ($20,000) = Secondary Lot Value ($100,000)

ANTICIPATED USE METHOD
(DISCOUNTED CASH FLOW, SUBDIVISION DEVELOPMENT ANALYSIS)

The rationale to use this appraisal method is to estimate a price an investor would pay to purchase land which has subdivision potential.

To apply the method properly, the assessor must be familiar with the development process and perform analyses of all market conditions which affect the indicated land value. The analyzed market data must come from the community in which the appraised property is located. Any unsupported adjustments will destroy the credibility of the approach.

The hypothetical lot subdivision of the appraised property must be physically possible, legally permissible and economically feasible.

Projected Selling Price (PSP) of developed lots minus Total Development Costs, direct and indirect (TDC) = Indicated Land Value (ILV)

PSP – TDC = ILV

Simplified Example:

Prime Lot Value (PLV) = $200,000 (PLV is determined utilizing sales comparison approach to value)
Prime Lot Total (PLT) = 22 lots

PLV x PLT = PSP
(PLV) $200,000 x (PLT) 22 = (PSP) $4,400,000
Direct Cost (DC) + Indirect Cost (IC) + Profit (P) = Total Dev. Cost (TDC)
(DC) $1,100,000 + (IC) $1,100,000 + (P) $1,100,000 = (TDC) $3,300,000

PSP – TDC = ILV
(PSP) $4,400,000 – (TDC) $3,300,000 = (ILV) $1,100,000

ILV / PLT = PLV
(ILV) $1,100,000 / (PLT) 22 = (PLV) $50,000

Matched Pair Analysis

Appraisal technique used to determine the contributory value of one particular attribute of a property.

The appraiser analyzes two or more sales where the only difference is the value of the attribute sought.

EXAMPLE 1 (Beach Front)

	Sale 1	**Sale 2**
Beach Front	**Yes**	**No**
Lot size	10,000 sf	10,000 sf
Loc./Valuation Neighborhood	Green Harbor	Green Harbor
Style	Colonial	Colonial
Effective Age	10	10
Grade	Good	Good
Condition	Average	Average
Gross Living Area	2,000	2,000
Amenities	deck	deck
Sales Price	**$1,000,000**	**$750,00**
Sales Date	01/05/2015	01/14/2015
TASP	NA	NA

Sale 1 price ($1,000,000) – Sale 2 Price ($750,000) =
Contributory value of the Beach Front ($250,000)

EXAMPLE 2 (Fireplace)

	Sale 1	**Sale 2**
Lot Size	15,000 sf	15,000 sf
Neighborhood	R1	R1
Style	Cape	Cape
Fireplace	**No**	**Yes**
Effective Age	12	12
Grade	Average	Average
Condition	Average	Average
Gross Living Area	1,600 sf	1,600 sf
Amenities	Shed	Shed
Sales Price	**$350,000**	**$356,500**
Sales Date	09/02/2015	09/10/2015
TASP	NA	NA

Sale 2 price ($356,500) – Sale 1 price ($350,000) =
Contributory Value of the Fireplace ($6,500)

Utility Property

Data Collection — Transmission and Distribution

As of the valuation date the assessors should collect the following data and information for each utility account:

a) Information on the physical plant located in the community and subject to taxation. This information may be obtained from the Form of List submitted by each utility company.

b) Information on the dollars invested in the physical plant in the community. This information may be obtained by requesting the utility company's historical (gross and net book) costs.

c) System-wide financial and statistical data. This data may be obtained by requesting a copy of the annual return filed by each utility company with the Accounting Division of the Massachusetts Department of Telecommunications and Energy. In addition, rate base information, such as the rate of return allowed on the book cost and the return on common stock equity should be obtained.

Valuation

a) Cost

(1) Historical

(a) Net book
(b) Gross book less an approved rate of depreciation.

(2) Reproduction cost new less depreciation, provided proper allowances are made for physical and functional depreciation and economic obsolescence.

(a) Trending, using a generally accepted manual or index
(b) Re-pricing.

b) Income

Income attributable to taxable personal property must be isolated from system-wide income data.

c) Market

(a) Stock and debt approach
(b) Comparable sales approach.

Documentation

For certification purposes, the assessors must submit the appraisal documentation used to arrive at an opinion of fair market value. The appraisal documentation must include:

a) A complete inventory listing the proposed values for each category of inventory, including the Form of List;

b) Depreciation estimates fully documented by type;

c) Relevant data supporting any opinion of value. This data must:

(1) Identify the existence of special circumstances that might indicate a fair market value in excess of net book. Special circumstances enumerated by the Supreme Judicial Court that might induce a buyer to pay more than net book and might indicate a fair market value in excess of net book include, but are not limited to:

(a) The return actually being earned by the utility may exceed or be expected to exceed the rate of return approved by the regulatory agency in the allowed rate.

(b) The prospective buyer's allowed return on its investment may exceed the return available in the market for an investment having the same or greater risk.

(c) The applicable rules of law or regulatory agency policies may be changed so as to make the investment more attractive. For example, the regulatory agency may allow an increase in the rate of return allowed the utility or may abandon its existing carry-over rate base policy which provides that when a utility company sells an asset to another regulated utility company, the buyer's return is limited to the rate base value in the hands of the seller and not in any higher purchase price that the buyer might have paid. The prospect of any change must be a reasonable one.

(d) The potential for growth in a utility's business may warrant paying more than the utility's net book cost of particular property.

(e) A non-utility buyer, not subject to the governmental restrictions on its earnings, might purchase part of the property in the system.

(f) A municipality may be considering forming a municipal utility and might purchase the property.

(2) Show why, because of the special circumstances, a buyer would not be influenced by the net book cost of the property and would reasonably be expected to pay the value placed on the property by the assessors when by investing the same dollars elsewhere the buyer could obtain a better return on its investment. *Boston Gas Company v. Assessors of Boston*, 458 Mass. 715 (2011)(Valuation methodology giving equal weight to net book value and reproduction cost new less depreciation (RCNLD) of utility personal property upheld where evidence showed that (1) the Department of Public Utilities no longer follows a strict carry-over rate base regulatory policy so that a buyer may be able to earn a return on any acquisition premium paid for the utility assets, i.e., any amount paid above net book, and (2) sales activity in the marketplace indicates that, in practice, purchasers of utility property have paid substantially more than net book value.)

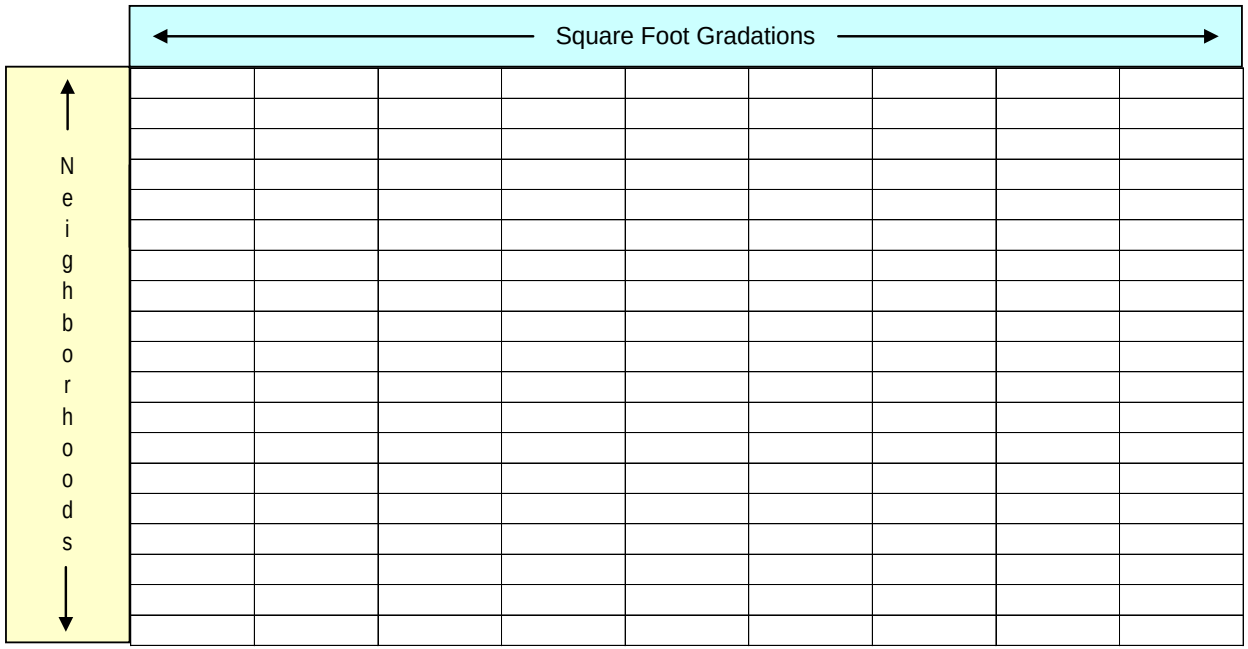
d) The final total estimate of the full and fair cash value of the property.

Commonly Used Forms

Form Land 1

Format for Land Schedule Submission

Submission is to be made in Excel Format

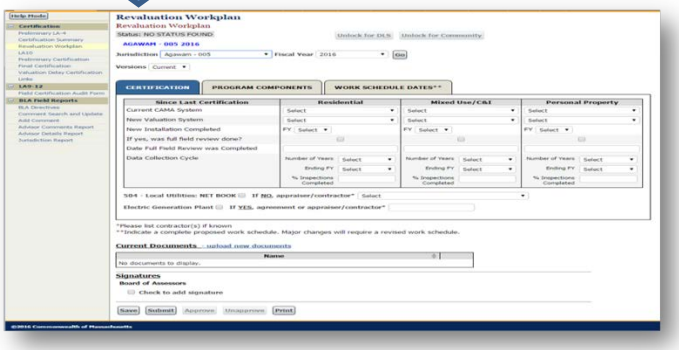


Square Foot Gradations should be incremental have a range starting, at least, at 5,000sf and continue, at least, up to the maxim square footage required for a primary lot within each neighborhood.

A. Gradation intervals should contain, at least, principle break points as applicable to the municipality. These could be 1000sf, 2000sf, 2500sf or other intervals as applicable to the zoning or custom.
B. If the size of the prime lot varies by zoning and zoning can vary within a neighborhood then the schedule should separate each neighborhood into the various allowable zones.
   If a neighborhood has two separate zones then it should be broken down into two separate lines.
   {For example: Neighborhood 3, Zone 10,000sf should be one line and Neighborhood 3,
   Zone 20,000sf should be another line}

I. Revaluation Workplan is submitted in Gateway:

Printed version .pdf



MASSACHUSETTS DEPARTMENT OF REVENUE
DIVISION OF LOCAL SERVICES

Acushnet
City / Town / District

Revaluation Workplan - Fiscal Year 2017

Version: 7/12/2016 2:35:06 PM (Not current, valid before)

Billing	Submitted By	Position
Q		

Certification

Since Last Certification	Residential	Mixed Use/C&I	Personal Property
Current CAMA System			
New Valuation System			
New Installation Completed			
If yes, was full field review done?	N	N	N
Date Full Field Review was Completed			
Data Collection Cycle	Number of Years: Ending FY: % Inspections Complete to Date:	Number of Years: Ending FY: % Inspections Complete to Date:	Number of Years: Ending FY: % Inspections Complete to Date:

504 - Local Utilities - NET BOOK: N **If NO, appraiser/contractor:**

Electric Generation Plant: N **If YES, agreement or appraiser/contractor:**

Program Components

	Residential		Mixed Use/C&I		Personal Property	
	Inhse	Contractor Name	Inhse	Contractor Name	Inhse	Contractor Name
Partial field review	N		N		N	
Full field review	N		N		N	
Data collection	N		N		N	
Formal data quality study	N		N		N	
Valuation	N		N		N	
Valuation field review	N		N		N	

New Mapping Program? N **GIS?** N **Integrated with CAMA?** N **Last Updated?**

Impact Notices? N **Classes:** **Notification to 2nd home Owners Required?** N

Adequate Funds for Revaluation: N **Appropriation:**

Work Schedule Dates

	Start Date	End Date
Sales analysis		
Value generation		
Value review		
DOR review		
Public disclosure		
Tax rate set		

LOCALLY ASSESSED UTILITY COVER LETTER

_____

Municipality

Bureau of Local Assessment
Division of Local Services
PO Box 9569
Boston, MA 02114-9569

The Board of Assessors has accepted the Utility Net Book Personal Property Values as reported by the following companies:

_____	$ _____
_____	$ _____
_____	$ _____
_____	$ _____
_____	$ _____
_____	$ _____

Board of Assessors:
This form must be signed by the majority of the Board

Date

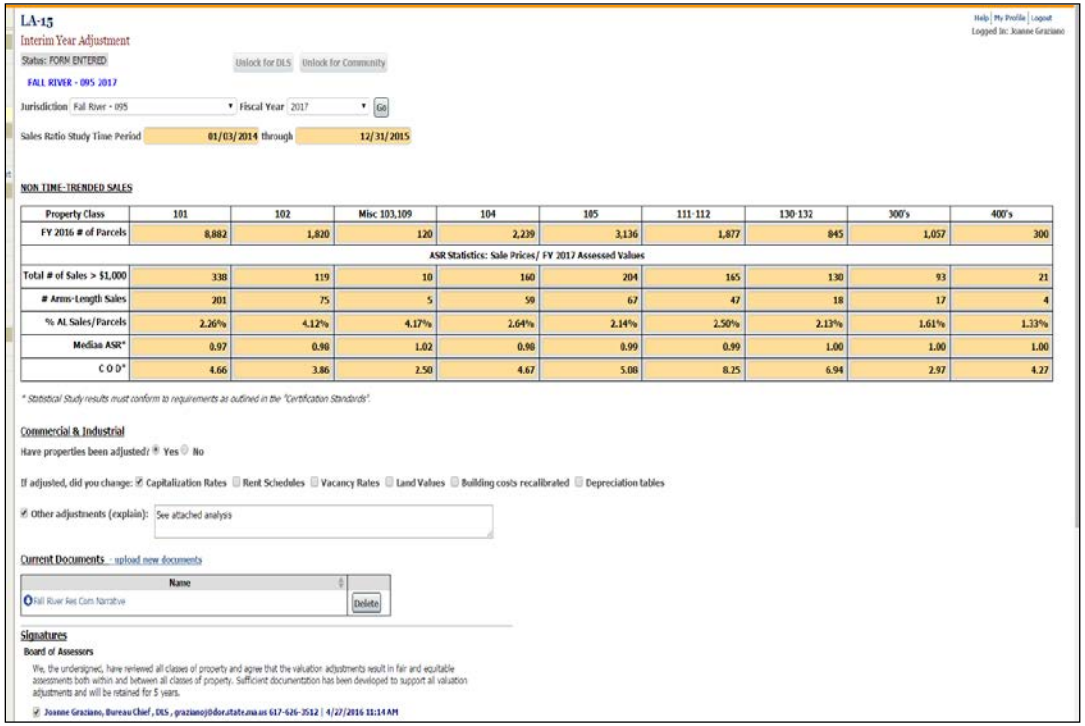
_____ _____

_____ _____

_____ _____

LA-15 Interim Year Adjustment Review

The LA-15 report has been moved to the LA-3 Tab in Gateway. To complete the submission process for the Interim Year Adjustment program, you must go to the **LA-15** form. The Parcel Counts for the LA-15 will be auto filled from prior year's LA4. Statistics will display.



LA-15

Interim Year Adjustment

Help | My Profile | Logout
Logged In: Joanne Graziano

Status: FORM ENTERED Unlock for DLS Unlock for Community

FALL RIVER - 095 2017

Jurisdiction: Fal River - 095 Fiscal Year: 2017 Go

Sales Ratio Study Time Period: 01/03/2014 through 12/31/2015

NON TIME-TRENDED SALES

Property Class	101	102	Misc 103,109	104	105	111-112	130-132	300's	400's
FY 2016 # of Parcels	8,882	1,820	120	2,239	3,136	1,877	845	1,057	300
ASR Statistics: Sale Prices/ FY 2017 Assessed Values									
Total # of Sales > $1,000	338	119	10	160	204	165	130	93	21
# Arms-Length Sales	201	75	5	59	67	47	18	17	4
% AL Sales/Parcels	2.26%	4.12%	4.17%	2.64%	2.14%	2.50%	2.13%	1.61%	1.33%
Median ASR*	0.97	0.98	1.02	0.98	0.99	0.99	1.00	1.00	1.00
C O D*	4.66	3.86	2.50	4.67	5.08	8.25	6.94	2.97	4.27

* Statistical Study results must conform to requirements as outlined in the "Certification Standards".

Commercial & Industrial

Have properties been adjusted? Yes No

If adjusted, did you change: Capitalization Rates Rent Schedules Vacancy Rates Land Values Building costs recalibrated Depreciation tables

Other adjustments (explain): See attached analysis

Current Documents - upload new documents

Name	
Fall River Res Com Narrative	Delete

Signatures

Board of Assessors

We, the undersigned, have reviewed all classes of property and agree that the valuation adjustments result in fair and equitable assessments both within and between all classes of property. Sufficient documentation has been developed to support all valuation adjustments and will be retained for 5 years.

Joanne Graziano, Bureau Chief, DLS, grazianoj@dor.state.ma.us 617-626-2512 | 4/27/2016 11:14 AM

After reviewing the resulting sales statistics for compliance with program requirements, and answering the questions pertaining to the C & I updates, if ready for formal submission, the majority of the Board of Assessors (or its authorized designee) should **save and sign and submit** the form at the bottom of the screen.

Note: When reviewing C&I adjustments, "No" is the default (for having no adjustments.) When you click Yes, all the boxes become active.

LA4 – Assessment Classification Report

New on Gateway for FY 2017:

In the *Chapter Land Columns*, Mixed Use chapter parcel count is broken out.

- The count for mixed chapter land goes on the left.
- The count for regular chapter land goes on the right.
- The count for regular mixed use goes under mixed use but does NOT contain the count for mixed use chapter.

Classes 450-452and 550-552 are segregated on the report:

Exempt Parcel count is added.

LA-4 Preliminary and Final

Property Type	Parcel Count	Class1 Residential	Class2 Open Space	Class3 Commercial	Class4 Industrial	Class5 Pers Prop
101	3,762	1,137,181,200				
102	713	160,142,500				
MISC 103,109	26	9,703,350				
104	185	52,060,700				
105	79	18,061,600				
111-125	85	112,869,000				
130-32,106	279	13,829,900				
200-231	0		0			
300-393	205			173,134,900		
400-442	53				17,516,200	
450-452	0				0	
CH 61 LAND	0 0		0	0		
CH 61A LAND	0 1		0	1,600		
CH 61B LAND	0 4		0	40,000		
012-043	80	15,816,564	0	15,134,986	0	
501	190					2,037,900
502	232					9,063,400
503	0					0
504	4					17,980,800
505	2					6,047,600
506	0					0
508	4					1,558,900
550-552	0					0
TOTALS	5,904	1,519,664,814	0	188,311,486	17,516,200	36,688,600
Real and Personal Property Total Value						1,762,181,100
Exempt Parcel Count & Value					6,464	131,497,500

For CH 61, 61A and 61B Land: enter the mixed use parcel count in the left-hand box, and enter the 100% Chapter land parcel count in the right-hand box.

Certification Check List

Preferred Format for Submittal: (*1) Excel, (*2) Electronic version if available - .doc / .docx (Word), .pdf, .jpg.....
Forms can be found in the Commonly Used Forms section of the Certification Standards

1 Review the status of Previous Directives
2 Revaluation Workplan:
- A. Upload or fill out the Revaluation Workplan on Gateway; Assessor to Save adb Submit; Advisor Approve
- B. Or, fill out the Workplan and upload, after a review by your certification advisor, into the Revaluation Workplan section of the Certification tab
  - a. If using the Excel version simply upload after completing (*1)
  - b. If using the .pdf then complete, scan and upload (*2) or complete and submit to your advisor

3 Upload LA-3 Sales File into Gateway (*1)
- A. "N" Code Explanations should be on LA3 (In the comments column)
- B. Check all medians and COD's for compliance (overall, quartiles or half's)
- C. Sign and Submit LA3 in Gateway
- D. Time Adjustment Sales Study - if applicable - (*1)

4 Final ASR Studies by: - (With resulting medians & COD's)
- a. State Use Code
- b. Style
- c. Selling Price
- d. Neighborhoods
- e. Age Groups
- f. Dates *(Optional - This is a Gateway process)*
- g. Other

Condominium Studies by: (With resulting medians & COD's)
- a. Overall by Use
- b. Complex
- c. Selling Price
- d.. Dates (Optional - This is a Gateway process)

5 Preliminary LA-4 from the CAMA system (*2)
6 Enter Preliminary LA4 on Gateway and Save and Submit
7 Neighborhood Map - @ the beginning of the certification review (*2)
8 Copy of land rate tables
- A. Land Form 1 - Neighborhood Land Pricing Schedule (*1)
- B. Copy of additional land rate tables including excess, and front foot price (*1)

9 Land pricing instructions that describes method of pricing for the following - Could be included in #7 (*2):
- A. Primary lots
- B. Excess/residual
- C. Un-developable
- D. Front feet or secondary
- E. Waterfront adjustments/condition factors

10 Copy of vacant land discount analysis -- if applicable -- (*1)
11 Land Analysis Studies - (*1)
- A. Vacant Land Sales Analysis
- B. P code Study (vacant land sales improved as on Jan 1st)

12 Land Residuals Analysis (*1)
- A. **Overall** Land Residual Study
- B. Land Residuals **By NBHD**
- C. Land Residual **By Lot Size** – Three strata w/ lot size
  - a. By Primary lot size or by zoning (if schedule is applied)
  - b. Oversized by primary lot size or by zoning
  - c. Oversized by NBHD if excess varies by NBHD

* Analysis by zoning may be requested if difficulties setting excess value or high excess rate

13 Residential Cost & Depreciation Tables (including Base Rate Cost Study) - Could be included in #7 (*2)
14 Review Residential Spreadsheets (*1)
- A. Condo Review Spreadsheet
- B. Residential Review Spreadsheet
- C. Residential Land Review Spreadsheet

Certification Check List

Preferred Format for Submittal: (*1) Excel, (*2) Electronic version if available - .doc / .docx (Word), .pdf, .jpg.....
Forms can be found in the Commonly Used Forms section of the Certification Standards

15	Apartment & Commercial Land Tables (*1 and/or *2)	
16	Apartment & Commercial Cost & Depreciation Tables - Including CI Cost Development - (*1 and/or *2)	
17	Apartment & Commercial Neighborhood Map @ the beginning of the certification review (*2)	
18	Income Land Residual Analysis (*1) for the following:	
	A. Commercial (300's) & Industrial (400's) combined; by neighborhood	
	B. 111's - Overall, by neighborhood	
	C. 112's - Overall, by neighborhood or unit price	
	D. Mixed Use - Overall, by use	
19	Capitalization Rate Development & Support (*2)	
20	Economic Rent, Expense, & Vacancy Analysis (*2)	
	A. Include the number of I&E's received for 111's, 112's, Mixed Use (013's, 031's) and C&I's	
21	Economic Rent, Expense, Vacancy, & Cap Rate Tables (*2)	
22	Review CI, APT & Mixed Use Spreadsheets (*1):	
	A. Commercial & Industrial Review Spreadsheet	
	B. Commercial & Industrial Income Review Spreadsheet (include correlation with cost approach)	
	C. Commercial & Industrial Land Review Spreadsheet	
	D. Apartment Review Spreadsheet	
	E. Apartment Income Review Spreadsheet (include correlation with cost approach)	
	F. Apartment Land Review Spreadsheet	
	G. Mixed Use Review Spreadsheet	
	H. Mixed Use Income Review Spreadsheet	
	I. Mixed Use Land Review Spreadsheet	
23	Specialty Appraisals (*2)	
24	Top Five Taxpayers (*2)	
	A. List the Top Five Taxpayers of the last Fiscal Year. (Do not include classes 504-508. Include the use code, current value and proposed value.)	
	B. Provide the PRC's for each of the Top Five.	
25	Exempt Spreadsheet (*1)	
26	Chapter Land - provide access to liens for review	
27	Reimbursable State-Owned Land PRC's (Review with Advisor prior to printing) (*2)	
28	Personal Property:	
	A. Provide access to Personal Property Cost & Depreciation Tables	
	B. Provide access to Personal Property Record Cards or Account listings	
	C. Second Home Analysis (*1 and/or *2)	
	D. How many Forms of List: returned, inspected, estimated by model? (*1 and/or *2)	
	E. Provide access to Standard CAMA Reports by Old to New: Listing by Business, Owner, and Address	
29	Generating Plant Valuation : FMV (*2)	
30	Generating Plants - PILOTS: (38h)	
31	Signed Utility Letter - See Certification Standards: Commonly Used Forms (*2)	
	A. Copies of letters from each utility siting Net Book Value (*2)	
	B. Appraisal evidence if NBV is not used (*2)	

Date Received

For Assistance or Guidance

Contact your BLA Community Advisor
Or Email
bladata@dor.state.ma.us